# Labeeb Hasan Zaker

## **EDUCATION AND INVOLVEMENT**

## **Mechatronics Engineering (GPA-3.85)**

MCMASTER UNIVERSITY SEPTEMBER 2018 - APRIL 2022

Relevant courses: Engineering Computation(python), Programming for Mechatronics (C language)

## McMaster Eco-Car Club CAVS Programmer

SEPTEMBER 2019 - PRESENT

- Implemented a Matlab code to receive data from the car sensors (Sensor Fusion)
- Collaborated with teammates on developing the ACC (Adaptive Cruise Control) algorithm using Matlab

#### PERSONAL PROJECTS

## BloggersInc | HTML5, Semantic UI, CSS3, JavaScript, JQuery, Node.JS, Express.JS

- Designed social media site which allows users to create blog posts, make comments and edit them.
- Used MongoDB to organize and store non-relational databases of ~30 users, blogs and comments
- Constructed a secure user login form using Passport.JS library

## Vehicle Collision Avoidance Program | Python3

- Lead development of an adaptive **Python** program that could detect obstacles, road conditions, and lane markers using **OpenCV**, **NumPy**, **matplotlib** libraries
- Employed **NumPy** to account for **data processing** on arrays of integer coordinates, thus increasing **accuracy** of computer detection results on lanes
- Implemented CV2 library to visualize the detection results on various videos or images

## Personal Portfolio | HTML5, Bootstrap4, CSS3, JavaScript, JQuery, Node.JS, Express.JS

- Created portfolio site where people can learn more about me, learn about my projects, and contact me.
- Improved **site-responsiveness**, by adding **Bootstrap4** built-in **responsive breakpoints**, which adjusts and aligns the content based on current window size
- Refined communication service by integrating node-mailer library to handle over a 100 monthly emails

#### **Skills**

Front-end: HTML5, CSS3, jQuery Languages: JavaScript, Python, C/C++, Matlab

Back-end: Node.JS, MongoDB, Rest API Frameworks: Bootstrap4, Express.JS, Git, ReactJS